

REMARKS

Applicants wish to thank Examiners Smith and Marschel for the helpful telephone interview of June 3, 2004, during which the amendments proposed herein were discussed. More specifically, the Examiners and Applicants' representative discussed the amendments to claim 1 that add the active step of providing the atomic co-ordinates of Table II, and that modify the last sub-section (now section (d)) to recite "physically contacting said potential modulator with L11/GAR" and the manner by which these amendments overcome the present rejections. The Examiners agreed to consider entry of the proposed amendments.

Claims 1-6 are under examination. Claims 7-32 are withdrawn as drawn to a non-elected invention. Claim 1 is proposed to be amended herein. The amendments add no new matter.

Rejection under 35 U.S.C. §112, First Paragraph:

Claims 1-6 are rejected for new matter over the phrase "wherein said contacting comprises contacting by computer modeling or by physically contacting said potential modulator with the L11/GAR, wherein a modulator of L11/GAR activity is identified." The Office Action states

"Written basis is analyzing potential modulating effect of a chemical compound on the L11/GAR via computer modeling (page 40, lines 2-3 of the specification), but not for the broadly mentioned 'contacting by computer modeling,' as now stated in the claim 1, lines 9-10. Written basis is also provided for a compound physically and structurally *associating with* L11/GAR, but not necessarily physically contacting said potential modulator with the L11/GAR which differs in scope, as now stated in claim 1, lines 10-11. The added portion of what 'contacting' comprises as newly stated on lines 9-11 is not adequately supported in the specification, drawings or claims as originally filed."

The Office Action thus concludes that the "contacting by computer modeling..." language is new matter. Applicants respectfully disagree.

Applicants submit that the amendment to claim 1 proposed herein to recite "b) using said three dimensional structure of the L11/GAR to design or select a potential modulator by computer modeling" and "d) physically contacting said potential modulator with L11/GAR to determine the ability of said potential modulator to modulate L11/GAR activity" is sufficient to

overcome this rejection. Specifically, Applicants submit that the claim as amended requires physically contacting the potential modulator with L11/GAR. Support for the language “physically contacting said potential modulator with L11/GAR” is found on, for example, *page 40, lines 5-7*, which state “However, if computer modeling indicates a strong interaction, the molecule may then be synthesized and tested for its ability to bind to the L11/GAR domain and to inhibit using the assays described herein.” Applicants submit that the synthesis of the molecule and its testing for the ability to bind the L11/GAR necessarily involves physically contacting the molecule with the L11/GAR.

In view of the amendment proposed herein, Applicants respectfully request reconsideration and withdrawal of the written description rejection.

Rejection under 35 U.S.C. §112, Second Paragraph:

The Office Action states that claim 1 is vague and indefinite due to the abbreviation “L11/GAR.” Applicants have proposed amending claim 1 to include the full title with the abbreviation in parentheses, i.e., “L11 GTPase Activating Region (L11/GAR).” Because claim 4 depends from claim 1, Applicants submit that it is not necessary to re-insert the full title in claim 4, as it is clear what is meant by the term.

In view of the proposed amendment, Applicants respectfully request reconsideration and withdrawal of the rejection.

Rejections under 35 U.S.C. §103(a):

The prior §103 rejection of claims 1-6 over Chen et al. in view of *In re Gulack* was maintained in this Office Action. In rebutting Applicants’ previous arguments, the Office Action states:

“Applicants submit the reasoning that the atomic coordinates of the L11/GAR were already known is an incorrect presumption as the coordinates were not available in the prior art. However, the atomic coordinates were known at the time the invention was made (since they are part of the invention) and therefore it would have been obvious to use these coordinates or any other atomic coordinates from synthesized crystals at the time of the invention.”

Applicants disagree with this conclusion. Specifically, Applicants submit that the coordinates, as acknowledged by the Examiner, are part of the invention, and were not known to anyone but the inventors at the time of the invention. In order to be rendered obvious, each element of the claims must be taught or fairly suggested in the art. Because the coordinates were not available in the art, the claimed invention cannot be obvious.

With regard to the assertion in the Office Action that the coordinates are merely “non-functional descriptive material,” Applicants again disagree. *In re Gulack* states that “the critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate.” 703 F.2d 1381, 1386 (Fed. Cir. 1983). Where the printed matter has a new and unobvious functional relationship to the substrate, the matter is not merely descriptive. In *Gulack*, the claimed invention was a hat band having a sequence of evenly spaced numbers imprinted upon it, where the numbers, by virtue of the algorithm used to generate the sequence of the numbers, presented them such that each digit resides in a unique position with respect to each other digit in endless loop. In *Gulack*, the court stated, with reference to a cited prior art device which included printed matter on a hat band, that “the differences between the appealed claims and Witcoff {the reference} reside in appellant’s particular sequence of digits Q, and in the derivation of that sequence of digits.” The court rejected the board’s conclusion that there is no functional relationship between the printed matter and the substrate of the appealed claims.

In the presently claimed invention, Applicants submit that the “printed” matter is analogous to the coordinates, and the “substrate” is analogous to the computer. The functional relationship between the coordinates and the computer is one that permits the computer to generate a three dimensional model of the L11/GAR when the coordinates are put into an algorithm. The relationship is new and unobvious because the coordinates themselves are new and unobvious. As such, the coordinates, as representations of the L11/GAR, are not merely non-functional descriptive matter.

Notwithstanding the discussion above, Applicants submit that, in view of the proposed amendment of claim 1, the rejection over Chen in view of *In re Gulack* is moot, in that the claims now require the active step of “physically contacting the potential modulator with the

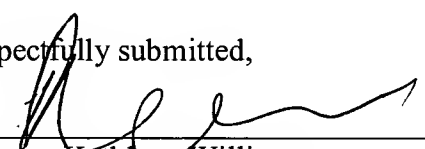
L11/GAR” and the step of “providing the atomic co-ordinates of the L11 GTPase Activating Region (L11/GAR) in Table II, thereby defining a three-dimensional structure of the L11/GAR.” Because neither reference teaches the atomic co-ordinates of the L11 GTPase Activating Region (L11/GAR) in Table II, Applicants submit that the cited references cannot render obvious the invention as described in the proposed amended claims. In view of this, Applicants respectfully requests reconsideration and withdrawal of this §103 rejection.

The claims are also rejected under §103(a) over Chen et al. in view of Hinck et al., *In re Best* and *In re Fitzgerald*. This rejection is based upon the interpretation of the claims, before the proposed amendments, to not be restricted to the specific X-ray crystal structure defined by the coordinates of Table II. Applicants submit that as proposed to be amended herein, claim 1 is clearly limited to the three dimensional X-ray crystal structure defined by the coordinates of Table II. Because Hinck et al. only taught an NMR structure, necessarily of lower resolution than the x-ray crystal structure defined by the coordinates of Table II, no combination of Hinck et al. with Chen et al. can render obvious the invention as described by claim 1 as it is proposed to be amended. In view of this, Applicants respectfully request the reconsideration and withdrawal of this §103 rejection.

In view of the above, Applicants submit that all issues raised in the Office Action have been addressed. Entry of the proposed amendments and reconsideration of the claims is respectfully requested.

Date: June 11, 2004

Respectfully submitted,



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